EC-G-1998-47

JUN 8 1982

MEMORANDUM

SUBJECT: Guidance on Determination of Asbestos Content of Friable Materials

FROM: Kathleen M. Bennett, Assistant Administrator for Air, Noise and Radiation

TO: Directors, Air and Waste Management Divisions Regions I-IV, VI-VIII, X

Directors, Air Management Divisions, Regions V and IX

The National Emission Standard for Hazardous Air Pollutants (NESHAPS) for asbestos covers the operations of spraying, and demolition and renovation with associated waste disposal, if a friable (easily crumbled) material containing more than one percent asbestos is processed. The lack of a promulgated method to evaluate the asbestos content of a friable material against this "one percent asbestos content test" has been identified as an impediment to enforcement of the NESHAPS for asbestos.

It is noted that the Standard is presently the subject of a complete reevaluation aiming at approximately October 1984 promulgation (for additional information contact John Copeland in OAQPS at FTS 629-5595). Although this reevaluation is incomplete, there is a likelihood that the revised NESHAPS will include an explicit methodology for the determination of asbestos content in materials.

Until the analytical methodology is designated by regulation, the asbestos content of materials subject to the "one percent asbestos content test" should be determined by use of the methodology described in the EPA publication, Bulk Sample Analysis for Asbestos Content: Evaluation of the Tentative Method, released by the Environmental Monitoring Systems Laboratory and Office of Pesticides and Toxic Substances in 1982, as EPA Publication, EPA-600/4-82-021. The basic analytical technique described therein is a variation of polarized light microscopy which allows for a quantitative estimate of the weight percentage of asbestos in a sample. X-Ray diffraction is suggested but only as a "supportive" method. While this general approach to asbestos quantification has been recommended for years to EPA enforcement personnel, the referenced document provides an explicit standardization of sample preparation and asbestos quantification. This document, and others relating to asbestos sampling, analysis and sources of measurement variability, are available from the regional asbestos coordinators associated with the Office of Toxic Substances' effort to identify asbestos in school buildings.

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Although the methodology to quantify the asbestos content of samples is directly transferrable from the school asbestos program to the NESHAPS program, it should be emphasized that the strategies to locate and sample asbestos may be distinct between the programs. The school program as described in EPA guidance, Asbestos Containing Materials in School Buildings, Part 1, is oriented to identify asbestos material which is presently friable, whereas compliance with the NESHAPS requires that sampling include materials which are not presently friable but which may be degraded to release asbestos fibers during the process of renovation or demolition. A thorough background documentation of methods to locate and sample asbestos in structures scheduled for demolition or renovation, not now available, will likely be developed during the comprehensive Standard revision.